History

Pre-History

The prehistoric framework for Shemya encompasses the Near Islands, and, more broadly, the entire Aleutian chain. The Near Islands, which include Attu, Agattu, and the Semichis (Shemya, Nizki, and Alaid), were settled relatively late in the Holocene (less than 3,500 years ago), and knowledge of their brief prehistory remains limited. However, at the time of initial contact with Europeans, the Near Islands — including Shemya — were occupied by approximately 1,000 people who had developed a distinctive Attuan dialect and artifact style within the wider context of Aleutian language and culture (Laughlin 1980; Black 1984; Corbett 1991).

The earliest evidence for settlement of the Aleutians occurs in the eastern part of the chain on Anangula (Fox Islands), where a core and blade industry has been radiocarbon-dated to about 8,000 years B.P. (Laughlin 1967:431-438). The Anangula industry appears to represent a variant of some of the oldest known archaeological remains in Beringia (Paleo-Arctic Tradition), and may reflect an early maritime adaptation. By 5,000 years B.P., a distinctive Aleutian Tradition is recognized in the Fox Islands at sites like the Chaluka midden (Umnak Island), and it is believed that the Aleutian and Eskimoan languages diverged at this time (Laughlin 1980; Dumond 1986). The Aleutian Tradition is characterized by stemmed points and knives, stone lamps, and diagnostic barbed harpoon and lance points. Sites are represented by deep middens containing the remains of sea mammals, fish, shellfish, and sea urchins, and traces of semi-subterranean houses (McCartney 1984). Although some changes occur in artifact style and dwelling form, the material culture of the prehistoric Aleuts remained fundamentally unchanged throughout prehistory, which probably reflects their isolation from other peoples of the northern Pacific region (although some scholars suggest contacts with Northeast Asia) (Black 1983; McCartney 1984).

The Aleutian population gradually spread westward along the island chain. Settlement of the Rat Islands occurred approximately 3,000 years B.P., and the Near Islands appear to have been occupied by at least 2,500 years B.P. (Dumond 1986). A radiocarbon date recently obtained from Shemya suggests that settlement of the Near Islands may have occurred as early as 3,500 years B.P. (Corbett 1990, 1991). Both archaeological and ethnohistoric data indicate that prehistoric Aleuts resided on all of the Near Islands. Although their occupation spans several thousand years, temporal or culture-stratigraphic subdivisions have yet to be identified and the archaeological record is treated as one unit (Corbett 1991). Nor is it possible at present to identify significant differences among the islands, despite the fact that Attu, Agattu, and Shemya had developed separate socio-political organizations by the time of their first contact with Russian explorers; Shemya prehistory cannot be isolated from the Near Islands as a whole.

A variety of typologic and stylistic characteristics distinguish the material remains of the Near Islands from the broader Aleutian Tradition, and may reflect their comparative isolation from the central and eastern Aleutians and possible influences from Northeast Asia (Spaulding 1962; McCartney 1971). Diagnostic artifact types include barbless fishhooks, shouldered points, and flaked semilunar knives, and stylistic patterns include circle and dot

decoration of bone and serrations and incisions on stone points. Art objects also exhibit some unique features: ivory figurines possess ovoid trunks and pegged-on appendages that bear similarity to some Northeast Asian cultures.

Near Island prehistoric sites are typically coastal middens composed primarily of sea urchin remains; their contents (combined with ethnohistoric data and site catchment analyses) indicate a subsistence economy based on hunting (sea lions, seals, sea otters, whales, and various birds), fishing (salmon, halibut, cod, perch, and others), and gathering (shellfish, berries, and others) (Corbett 1991:66-71). People lived in semi-subterranean houses containing firepits lined with stone slabs. They constructed wood-frame boats covered with skin ("baidarkas"), which were used for marine hunting and fishing, as well as travel among the islands (which is indicated by the movement of lithic raw materials) (Corbett 1991:87-89). Burial practices were varied and included both individual burials and mass graves, typically covered with whale bones (Jochelson 1925; Hrdlicka 1945; Spaulding 1962).

Archeological Remains on Shemya Island

The first discoveries of prehistoric archaeological remains on Shemya appear to have been made during 1943-1945 by American military personnel stationed on the island. Sites were discovered during construction of roads, runways, buildings, and fortifications, and artifacts were collected for recreational purposes. Some of these collections were described by McCartney (1971). In 1998, the Air Force was contacted by the South Dakota State Historical Society to coordinate the return of human remains and funerary objects to the Aleut Corporation that had been removed from Shemya Island in 1943 and subsequently transferred to a South Dakota museum (Boen 1998). Despite the early archaeological investigations on Attu and Agattu, no professional surveys were conducted on Shemya until after the Second World War (Corbett 1991; Siegel-Causey *et al*. 1995).

In 1948, the locations of four prehistoric sites on Shemya were plotted on the basis of an aerial reconnaissance (Bank 1948-1951). In the early 1960s, a University of Alaska student visited the island and located seven sites, including the four previously plotted sites (Aamodt 1965). Information and artifacts recovered during this investigation represent the only record of several sites that have since been destroyed (Siegel-Causey *et al*. 1995). In 1985 and 1988, surveys were conducted to document claims made by the Aleut Corporation under Section 14(h)1 of the Alaska Native Claims Settlement Act (Reynolds 1986; U.S. Bureau of Indian Affairs 1988); three sites (ATU-003, ATU-022, and ATU-023) were eventually determined eligible for conveyance to the native corporation under this act (Corbett 1998). In 1990-1991, Corbett investigated ATU-003 and four other sites (ATU-022, ATU-023, ATU-062, and ATU-063), excavating test pits and collecting samples for radiocarbon dating (Corbett 1990, 1991). Further research was conducted in 1994 at ATU-003, ATU-022, and ATU-061, as well as a newly discovered site on the southern coast, and samples for radiocarbon dates and paleobiological analyses were collected (Siegel-Causey *et al*. 1995).

Nine prehistoric archaeological sites have been recorded on Shemya Island, but three of these sites now appear to have been completely destroyed. All of the remaining six sites have been disturbed by past construction activity and/or vandalism (Corbett 1990, 1991;

Siegel-Causey *et al*. 1995). Signs were posted by the installation commander to reduce further damage to archaeological sites. In addition to the nine confirmed sites, two other locations have apparently yielded isolated artifacts, but have thus far failed to provide evidence of sites (Corbett, personal communication, 1996).

All of the prehistoric archaeological sites reported on Shemya Island represented middens occupied by prehistoric Aleuts (Corbett 1991). The sites vary significantly in terms of their original size (i.e., prior to modern disturbance), ranging from approximately 3,000 square meters (and possibly smaller) to over 9,500 square meters. The depth of occupation deposits ranges from approximately 0.5 to 3.0 meters. The midden deposits consist primarily of sea urchin remains and organic-rich sediment, but also contain large quantities of bone and shell; they have yielded artifacts of stone and bone. Traces of semi-subterranean houses appear to be present at some sites, and human remains have been recovered from at least two sites (ATU-022 and ATU-061). All of these sites may have been occupied for extended intervals; a series of eight radiocarbon dates obtained from different levels of ATU-003 indicate that this site was occupied for more than a thousand years. The oldest radiocarbon dates have been obtained on materials from ATU-061 and suggest an occupation as early as 3,000-3,500 years ago (Siegel-Causey *et al*. 1995), while ethnohistoric sources indicate that some sites were occupied as recently as 220 years ago (Black 1984).

At the present time, four prehistoric sites have been determined eligible for inclusion in the *National Register of Historic Places* (NRHP). The remaining sites have either been destroyed or severely disturbed by past looting and construction, and lack sufficient integrity to be eligible for the NRHP. This determination was made by the USFWS (Corbett 1998), and has received concurrence from the Alaska SHPO (Bittner 1998). The four eligible sites include ATU-003, ATU-022, ATU-023, and ATU-061; all were determined eligible under criterion D in 36 CFR 60.4 ("that have yielded, or may be likely to yield, information important in prehistory or history"). Three of these sites (ATU-003, ATU-022, and ATU-023) have also been determined eligible for conveyance to the Aleut Corporation under section 14(h)(1) of the Alaska Native Claims Settlement Act by the Bureau of Indian Affairs. Federal agencies are required to protect sites eligible to the NRHP from the effects of their actions under the National Historic Preservation Act.

History Prior to World War II (1745-1941)

The early history of Shemya must be placed within the larger context of the Near Islands; during most of this period, Shemya lacked a resident population. Although the Russian explorer Vitus Bering encountered Aleuts (in the Shumagin Islands) during his voyage of 1741, he did not visit the western Aleutians. The first contact between Europeans and native people of the Near Islands occurred in 1745, when Mikhail Nevodchikov landed on Agattu and Attu. The Russians remained on Attu for a year hunting sea otters. A violent encounter between the Russians and Aleuts led to the death of at least 15 Attuan men (which probably had an even larger impact on the population through indirect effects on their dependents). It is estimated that at the time of Nevodchikov's arrival, there were approximately 1,000 Aleuts living in the Near Islands; Shemya was apparently occupied by a resident population of at least 100 people.

During 1745-1799, many Russian ships visited the Near Islands to hunt sea otters (primarily on Attu). In 1750, arctic foxes were introduced to Attu. The first descriptions of the Near Islands Aleuts were recorded during the early 1760s (Black 1984; Corbett 1991). Separate chiefs were reported to live on Attu, Agattu, and Shemya, although the Agattu group was politically dominant (and the largest group among the islands). The Aleuts hunted sea lions, seals, and otters, and fished from baidarkas (wood-framed skin boats); shellfish were eaten when other foods were scarce and famine sometimes occurred during the winter. They lived in rectangular earthen houses that were entered from the roof. By the end of the 1760s, the Aleut population had declined sharply (to approximately 100 people) and had consolidated itself on Attu; Shemya was apparently abandoned as a permanent settlement (Corbett 1991). In 1805, both Russians and Central Aleuts settled on Attu. Although the new immigrants established their own separate communities, they were eventually consolidated into one village. The Aleuts sometimes spent the winter on Agattu and visited the Semichis in the spring to hunt sea otters. They traded furs with the Russians for guns, ammunition, needles, cooking pots, and other industrial goods. The Attuans were especially interested in fabrics and finished articles of clothing.

In 1867, the United States purchased Alaska and the Aleutians from Russia. Some of the Attuans subsequently immigrated to the Komandorski Islands. During the early years of American control, sea otters were hunted heavily, and by the 1890s they had become locally extinct. In 1913, the Aleutians were designated as a wildlife refuge for the protection of birds and the raising of caribou and fur-bearing mammals. Aleuts continued to occupy the small village on Attu, which contained approximately 100 people at the beginning of the twentieth century. In 1911, A.B. Sommerville took over the Attu village store, and eventually leased the Semichi Islands for raising foxes (which were introduced to Shemya for the first time). In the 1920s, the price of fox furs increased significantly, affecting the Aleutian economy. The Aleutian Fur Company bought out Sommerville in 1922 and expanded operations in the Near Islands. Fox populations were increased on Attu and introduced to Agattu, and trappers' cabins were built on Shemya and Alaid. In 1940 there were 44 Aleuts living in the village on Attu, which contained wood-frame houses, church, and school. Trappers from Attu used the cabin on Shemya during their winter visits to the island.

Between the abandonment of permanent Aleut settlement (prior to 1770 A.D.) and the arrival of U.S. military personnel in 1943, occupation of Shemya Island was limited to periodic visits by hunters and trappers. The only traces of settlement that remain from this period are two Russian Orthodox graves (ATU-064) located on the western coast of the island. The graves are dated to 25 March 1926 and 30 March 1930, and each is enclosed by a white wooden fence (Morrisette 1988). A trappers cabin, apparently constructed during the 1920s, was formerly present, but was not found during the 1996 building inventory.

World War II History (1941-1945)

The Second World War had an enormous impact on the population, economy, and cultural life of Alaska and the Aleutian Islands. The western Aleutians possessed some strategic

military importance to the U.S. during the war because of their relative proximity to northern Japan. They were the only portions of North America occupied by the enemy during the war. Shemya possessed particular military value because the topography of the island was especially suitable for the operation of aircraft including large bombers (which require long runways), and by late 1943 the U.S. had established bases on both Attu and Shemya. The Aleut population was evacuated from the Near Islands by the Japanese in 1942 and never returned.

Six months after the attack on Pearl Harbor the Japanese launched the Midway Operation, which was designed to draw the American Pacific fleet into a decisive battle. Part of the operation called for an attack on the Aleutian Islands, where some U.S. air and naval forces were stationed. On 3-4 June 1942, carrier-based planes attacked U.S. Army and Navy forces at Dutch Harbor, and on 7 June 2,500 Japanese troops landed on Attu and Kiska with little opposition; Shemya remained unoccupied. The Aleut residents of Attu were eventually moved to an internment camp in Hokkaido (Garfield 1969).

The Midway battle was a major defeat for Japan. However, Imperial Headquarters concealed the defeat, and claimed success on the basis of the occupation of the western Aleutians. This increased the importance of maintaining troops on these islands, which were of limited strategic significance; their psychological or propaganda value to the U.S. was even higher because they represented North American soil. Accordingly, the U.S. established new bases on Adak and other islands and began air attacks on Kiska and Attu. In October 1942 the Japanese attempted to strengthen their Aleutian forces, and began construction of an airfield on Attu; occupation and airfield construction were also planned for Shemya and Amchitka. In early November, Japanese transports approached Shemya but turned back after being sighted by an American B-24 bomber, and the landing on Amchitka was aborted as well. A second and final attempt to occupy Shemya and Amchitka in late November was also abandoned. However, when the first U.S. military personnel landed on Shemya six months later, they found evidence that a Japanese survey party had visited the island (Morrisette 1988).

The American counter-offensive to drive the Japanese out of the western Aleutians began in May 1943 with the invasion of Attu. Kiska was bypassed and isolated at this time, and subsequently abandoned by the Japanese. At the conclusion of the second most costly battle of the Pacific Theater (11-30 May 1943), the Japanese garrison on Attu was destroyed (Garfield 1969). Toward the last days of the battle — on 28-30 May 1943 — U.S. Army units (4th Infantry and 18th Engineers) landed on Shemya to begin construction of an airfield (Dod 1966:331). The Army engineers employed special techniques for rapid construction on a tundra ground surface, and had completed a 4,500-foot fighter runway by late June. The prime objective of the Shemya occupation was the construction of an airfield specifically designed for B-29 “Superfortress” bombers for raids on northern Japan. A 10,000-foot runway for heavy bombers was completed in August, and the first bomber aircraft (B-24) landed in early September.

While Shemya´s relatively flat terrain provided a natural area for a runway, paving it — which required significant quantities of rock, gravel, and sand — presented some difficulty. Almost no unconsolidated rock was available, and large areas had to be broken up with dynamite (particularly on the western end of the island) to supply the needed materials (Ross 1969). Sand

also was limited, a condition which eventually forced the relocation of the base headquarters when the only available sand was discovered under the site of the headquarters building.

In addition to the runways, the Army erected Quonset huts, permanent buildings, and defensive fortifications in 1943-1944. Four massive birchwood hangars, each occupying over 50,000 square feet, were built to house the B-29 bombers; three of these hangars (Bldgs. 502, 521, and 701) remain standing today. Other structures included a large hospital (now demolished), recreation hall (Bldg. 603), and standard wood-frame warehouses (Bldgs. 27, 30, 111, 223, and others). In order to provide for defense against a possible Japanese invasion, gun emplacements and concrete bunkers were established in strategic locations along the shoreline; many of these are also still present.

Construction in Alaska and the Aleutians during World War II presented engineers with a number of challenges, including shortages of building materials, construction equipment, and trained construction workers; unmapped and unknown territories; and inhospitable weather conditions (Dod 1966). By early 1943 shortages were less severe: improved transportation routes had been established and local production of coal and timber had led to material surpluses. Procurement of items not produced locally continued to be a problem, due to the short shipping season, the shortage of shipping vessels, and inadequate planning (Dod 1966:289-290).

To the extent possible, the runway and facility designs used at Shemya followed a design common to Alaskan World War II construction. Prefabricated and simple construction designs were employed in response to the needs for rapid construction and the use of unskilled labor. To secure buildings against high winds, structures were located in natural depressions wherever possible, and buildings were specially fortified. The thickness of structural membranes was increased; diagonal sheathing was applied over traditional horizontal sheathing; additional tar paper and batten sidings were used on the exterior walls; and the distance between studs in the main frame was reduced. Caps were added to chimneys to prevent downdrafts, which had caused numerous fires in the first building designs. Air exhausts were added to heating facilities to eliminate downdraft in chimneys. Vestibules or storm entrances were added to all buildings (Dod 1966; Ross 1969). All building foundations were placed on sand and gravel pads to prevent the disturbance of tundra, as once ground was broken, it became unstable and could not bear weight.

Although Shemya was originally intended for use by B-29s, only one of the Superfortress bombers (an experimental cold-weather model) ever visited the island (Garfield 1969:304). Instead, B-24s flown by the 404th Squadron (Eleventh Air Force) were used for raids on Paramushiro and other Japanese bases in the Kurile Islands during 1943-1945. The initial raids (launched from the new air field on Attu in July-August 1943) represented the first land-based air assaults on Japan (and the first attacks on Japan since the Doolittle raid). The U.S. also considered using Shemya and the other western Aleutian bases as a staging area for an invasion of the Kuriles, although eventually this plan was shelved. However, the threat of such an invasion from the Aleutians encouraged the Japanese to maintain forces in the area that could have been used elsewhere. During 1943-1945, Shemya also played a role in the Lend-Lease program as a refueling stop for planes en route from Fairbanks to Siberia (Garfield 1969:305).

After 1943, the Aleutians ceased to be a combat theater, and the Japanese made no further attempt to contest U.S. control of the island chain; the final aerial skirmish occurred on 20 October 1943 between PBYs from Shemya and a Japanese bomber over Attu (Garfield 1969:302). The 404th Squadron continued to conduct air raids on the Kurile Islands. The longest air mission of the Pacific Theater (2,700 miles round-trip) was flown from Shemya to Uruppu on 19 June 1945, and the final bombing raid from the Aleutians (on Paramushiro) was also launched from Shemya on 13 August 1945. During the last months of the war, serious morale problems developed among the military personnel on Shemya and the other Aleutian bases due to the isolation, climate, and lack of activity.

Shemya Island contains a number of World War II era structures that meet the eligibility criteria for inclusion in the *National Register of Historic Places* (NRHP) under criteria A ("that are associated with events that have made a significant contribution to the broad patterns or our history") and D ("that embody the distinctive characteristics of a type, period, or method of construction...") in 36 CFR 60.4. These structures may be considered contributing elements to the Shemya Island World War II Historic District. They include the gun batteries, concrete bunkers, and a buried shelter. These structures played an important role in the U.S. campaign to retake the western Aleutians from the Japanese in 1943, and they exhibit unusual and possibly unique design features as World War II fortifications in the Aleutian Islands (C. Denfeld, personal communication, 1998).

The remains of fortifications and shelters constructed during 1943-1945 are found widely distributed across the island, although a high proportion are concentrated along the western and southern coasts. None of these structures is listed on Air Force property records, and their ownership has reverted to USFWS. The fortifications include concrete gun emplacements located north of Building 3050 ("Battery B"), east of Building 4010 ("Battery A"), approximately 2000 ft west of Building 611 ("Battery X"), and near the southeast tip of the island ("Battery Y"). These batteries were reportedly equipped with 90 mm and 155 mm guns (J. Cloe, personal communication, 1996). Another set of gun emplacements (apparently equipped with anti-aircraft guns) are concentrated north of the east end of the long runway in the interior of the island. At least 20 concrete bunkers are located along the western and southern coasts, and an isolated bunker is found above the beach on the northeast coast. A buried "Quonset hut" (Elephant steel shelter) is located near Building 616.

The remaining structures of the World War II era are not eligible for the NRHP and may be considered non-contributing elements of the Shemya Island World War II Historic District. Most of the World War II era buildings were removed during the 1980s as part of an overall cleanup of Aluetian bases where abandoned facilities had become safety hazards. Of the twenty surviving World War II buildings, twelve are covered under a 1986 Programmatic Agreement for the treatment of temporary buildings. The three birchwood hangars (built to house B-29 bombers) and their associated heating facilities have lost their integrity of design due to significant modifications in siding and doors and no longer retain their original appearance. The remaining two structures (gymnasium, club) are not associated with any historic events or significant persons, do not embody any distinctive design characteristics, and do not possess the potential to contribute important historical information.

Cold War History (1945-1989)

The strategic military significance of Shemya Island during the Cold War lay in its proximity to the Kamchatka Peninsula and surrounding waters, which were used as an impact area for Soviet test missiles from 1957 to the end of the Cold War. The facilities on Shemya played a major role in the collection of technical information on Soviet ballistic missiles (both ground-based and sea-launched missiles). In the decade following 1957, the ICBM (and later the SLBM) became the primary strategic weapon of the Cold War, and their widespread deployment became the basis of the strategic balance between the U.S. and the U.S.S.R. During the latter part of the Cold War, the missile tracking facilities at Shemya were also used to help monitor Soviet compliance with nuclear arms treaties.

Although Shemya had only limited Cold War military importance prior to 1957, the base was involved in one of the first post-World War II confrontations between the U.S. and the U.S.S.R. Two days after the surrender of Japan (4 September 1945), a B-24 flew from Shemya for a reconnaissance of the Russian forces that had recently occupied the Kuriles. Soviet fighters based at Shimushu airfield intercepted the B-24 and attempted to force a landing, but the American plane returned safely to Shemya (Sample, undated).

During 1945-1949, activities and personnel at the base were reduced and no new facilities were constructed. The Cold War was primarily focused on Europe at this time, as the Soviet Union consolidated control of Eastern Europe (Ambrose 1993). In 1949, the U.S.S.R exploded its first atomic bomb and Communist forces seized control of China; in June of the following year, South Korea was invaded by a Communist North Korean army equipped with Soviet weapons. The U.S. responded with a major military expansion around the world. During the ensuing Korean War (1950-1953), Shemya was used as a refueling stop for support and supply aircraft on the Great Circle Route between the Far East and North America. The base was assigned to the Alaskan Air Command and operated by the 5021st Air Base Squadron.

Activities at Shemya were reduced once again following the Korean Armistice in July 1953. On 1 July 1954, the base was deactivated, and during the following year, the facilities were formally transferred to the Civil Aeronautics Authority. They were subsequently leased to Northwest Orient Airlines, which used them for refueling commercial aircraft until 1961. Northwest Orient constructed some additional facilities, including 12 small dormitories, during this period; one of these structures (Bldg. 527) is still extant.

On 21 August 1957, the first ICBM (a Soviet R-7 rocket) was launched from Tyuratam in Kazakhstan and traveled approximately 4000 miles downrange to an impact area in the Pacific Ocean near the Kamchatka Peninsula (McDougall 1985; Zaloga 1993). Armed with one or more thermonuclear warheads, the ICBM became the most important weapon of the Cold War, eventually altering the strategic balance between the superpowers (Levine 1994). Prior to the development of ICBMs, effective delivery systems for nuclear explosives had been confined to long-range bombers, which gave the U.S. a decisive advantage over the U.S.S.R. This advantage lay not only in the quantity, quality, and basing of aircraft, but also in the formidable strategic air defense created for North America by 1957 (Schaffel 1991). By contrast, neither the U.S. or the U.S.S.R. ever deployed large-scale ballistic missile defense systems (Bruce-Briggs 1988).

Further successful test launches of Soviet R-7 rockets were followed by the launch of the first artificial satellite on 4 October 1957. Sputnik had a dramatic impact on world opinion, and provided convincing evidence of Soviet ICBM capabilities (McDougall 1985; Levine 1994). The U.S. responded by accelerating its own ballistic missile program and constructing missile early warning radars in the far north. In addition, the Air Force increased monitoring of Soviet missile development by installing new radars in the vicinity of the missile test impact areas. The U.S.S.R. continued to launch missiles from Tyuratam to the Kamchatka Peninsula and surrounding waters. By December 1959, a new missile launch complex at Plesetsk in northwestern Russia became operational and also began test launching ICBMs towards the Kamchatka region (Zaloga 1993:150-151). Eventually, submarine launched ballistic missiles (SLBMs) were test-fired from the White and Barents seas to the same region.

Shemya Island, located only 400 miles from Kamchatka, provided an excellent site for monitoring Soviet missile tests. In July 1958, Shemya was reactivated as an Air Force installation, and the 5040th Air Base Squadron was assigned to provide base support. During the fall of 1958, existing buildings were restored for living quarters and new buildings (operations center and generator house) were completed. A large detection radar (AN/FPS-17) was constructed by General Electric on the west side of the island. Three antennae, each measuring 110 by 175 feet, were erected on concrete foundations. The AN/FPS-17 radar reached full operational capability in May 1960. In 1961, a detection radar transmitter was modified and a new 60-foot antenna was constructed to provide a tracking radar (AN/FPS-80), which reached operational capability in April 1962. Many additional support facilities were constructed in 1958-1961, including a massive dormitory (Bldg. 600), warehouses, maintenance shops, and others.

During 1960-1962, the Shemya radar facility was operated by the Air Force Security Service for intelligence data collection on Soviet missile tests. Soviet ICBM launches from Tyuratam and Plesetsk were initially detected by radar in Turkey (designated “Blue Nine”) and then passed to Shemya (“Blue Eight”) for tracking to impact. A secondary mission was to provide additional missile early warning coverage in conjunction with the Ballistic Missile Early Warning System (BMEWS). In early 1962, the Shemya radar was transferred to the Air Force Spacetrack program under Air Defense Command. The radar was originally assigned to the 9th Aerospace Division, and later to the 2nd Surveillance Squadron. In January 1967, the radar unit was redesignated 16th Surveillance Squadron.

During 1963-1972, some additional support facilities were constructed on Shemya, which included a mess hall (Bldg. 613), chapel (Bldg. 617), and dormitory (Bldg. 615). The Air Force also decided to extend the White Alice Communications System (WACS) — designed to ensure effective military communications prior to communications satellites — to the western Aleutians (Reynolds 1988). In the late 1960s, WACS facilities were constructed on both Adak and Shemya (“Project Bluegrass”). The Shemya facility (ATU-058), comprising two 120-foot antennae mounted on concrete foundations and associated technical equipment building, tower, and wave guide supports was located on the northern side of the island. In the late 1970s, the facility was deactivated and subsequently demolished.

In the early 1970s, the Air Force decided to replace the Shemya conventional radar with a phased array system. Phased array radar (developed in the 1960s) is steered electronically rather than mechanically, and permits simultaneous tracking of many objects. The deployment of Multiple Independently Targeted Reentry Vehicles (MIRVs) — which permit ICBMs to deliver up to 14 nuclear warheads to separate targets — increased the importance of phased array radar in missile attack early warning systems and surveillance of missile tests. The first tests of a Soviet ICBM containing multiple warheads were detected over the Pacific Ocean (presumably by the Shemya radar) in April-May 1969 (Hersh 1983:158). In June 1973, the Air Force awarded the contract to construct a phased array radar on Shemya to the Raytheon Corporation, which had already designed phased array systems at Eglin AFB in Florida and for the Safeguard ABM complex in North Dakota.

Construction of the new AN/FPS-108 phased array radar — designated Cobra Dane — was completed by July 1976, and the system became operational in August 1977 (when the AN/FPS-17 and AN/FPS-80 radars were shut down). The Cobra Dane radar was housed in a six-story structure (Bldg. 4010) at the northwest end of the island, designed to withstand winds of up to 160 knots and earthquakes up to 4.0 (Richter Scale). The single-faced phased array system had a range of 2,000 nautical miles, and the ability to track simultaneously up to 200 objects (Klass 1976; U.S. Air Force 1977). As before, missile test launches in the western U.S.S.R. were initially detected by radar installations in Turkey, and subsequently "handed off" to the Shemya radar for tracking to impact on Kamchatka or in the Pacific Ocean; Cobra Dane also continued to monitor satellites as part of the Air Force Spacetrack program (Burrows 1986) (Figures 8 and 9).

The Shemya radar was part of a larger integrated system for Soviet missile test surveillance that included airborne and seaborne components. Additional data gathering was performed by the USS *Observation Island* ("Cobra Judy") operated by the Navy off the Kamchatka coast, which was equipped with a rotating phased array radar (SPQ-11) on the stern. While Cobra Dane provided L-band radar coverage for detection and tracking, Cobra Judy provided higher frequency X-band radar for more detailed imagery. The other elements of the system included an RC-135E aircraft ("Rivet Amber") and an RC-135S aircraft ("Rivet Ball"), both of which were lost in 1969. These reconnaissance aircraft were later replaced with two RC-135S aircraft ("Cobra Ball") and one RC-135X aircraft ("Cobra Eye") which were assigned to the 6th Strategic Wing and operated from both Eielson AFB and Shemya Island over northern Pacific waters. They were equipped with a battery of cameras, sensors, and telemetry receivers for gathering information on individual re-entry vehicles (with dummy warheads) (Burrows 1986:165-166; Thornborough 1993:124-125). The birchwood hangars on Shemya — originally constructed in 1943-1944 for B-29 bombers — were modified in 1966 to accommodate the higher tailed RC-135 aircraft, which began using the island base probably as early as 1967 (AFCEE 1996; L. Griffin, personal communication, 1998).

The Cobra Dane radar and the other elements of the Cobra program were a major source of intelligence on Soviet missile and space technology during the later part of the Cold War. An important aspect of this surveillance was monitoring of Soviet compliance with arms control treaties (Burrows 1986), reflecting a fundamental change in the character of the Cold War after the Cuban Missile Crisis. Following this event (October 1962), the U.S. and the U.S.S.R.

established a relatively stable strategic balance based primarily on ballistic missiles (ICBMs and SLBMs), and entered into a series of agreements to control weapons development and testing (Bundy 1988). It was a Cobra Ball aircraft that detected Soviet encryption of missile telemetry signals, which represented a violation of the Strategic Arms Limitations Treaty (SALT).

Renewed confrontation between the U.S. and the U.S.S.R. developed after the Soviet invasion of Afghanistan in December 1979. The U.S. embarked on another expansion of military forces, and subsequently threatened the balance with the proposed development of a space-based strategic missile defense ("Star Wars") in March 1983. Superpower tensions increased further in September, when Soviet jets shot down a Korean commercial airliner over Sakhalin Island that they apparently mistook for a Cobra Ball aircraft (Burrows 1986). A number of facilities were constructed on Shemya during 1981-1985, reflecting the new U.S. defense build-up, including a weather station (Bldg. 42), additional generators for Cobra Dane (Bldg. 4012), aircraft hangar (Bldg. 752), and others. In 1986, the Army constructed a Star Wars research facility ("Queen's Match") on the northeast part of the island, which included a missile assembly shop (Bldg. 1005), launch pad (Bldg. 1020), silo shelter (Bldg. 1025), optical collimator (Bldg. 1035), ammeter tower (Bldg. 1040), and other structures.

After Gorbachev's accession to power in 1985, tensions between the U.S. and the U.S.S.R. began to decline again, eventually leading to the end of the Cold War (1989) and the collapse of the Soviet Union (1991). Although construction of new facilities on Shemya continued during 1987-1991, including two additional aircraft hangars (Bldgs. 754 and 755), two large dormitories (Bldgs. 598 and 599), a recreation hall (Bldg. 597), and others, Shemya (renamed Eareckson AFS in 1993) was downgraded to an air station in 1994. In April 1995, Eareckson AS was drawndown and converted to contractor operations and maintenance. Although the Cobra Ball and Cobra Eye aircraft were reassigned to Offutt AFB in 1993, the Cobra Dane radar continued to track test missiles (Russian and Chinese) and space objects.

Historic resources of the Cold War era are younger than 50 years in age and therefore must meet the citerion of "exceptional importance" to qualify for the NRHP (36 CFR 60.4g). Only the Cobra Dane radar (Bldg. 4010) meets this criterion on the basis of the major role that this facility played in the gathering of intelligence on Soviet ballistic missiles. The remaining buildings represent support facilities of common design that are not associated with historic events or significant persons, do not embody distinctive characteristics, and are not a source of important historical information in the context of the Cold War. Cobra Dane, operated in conjunction with the other elements of the Cobra program, was apparently the most important information source on Soviet missiles available to the USA. During the latter part of the Cold War, Cobra Dane also played a major role in monitoring Soviet compliance with arms treaties. The design of the single-face phased array radar facility (developed by the Raytheon Corporation) is unique.

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[1] Hangar 1 was used by the Navy. Hangars 5 and 6 were used by the 15th Tow Target Squadron and the 404th Bombardment Squadron (Ross 1969).